

1-24. (CANCELED)

25. (NEW) An apparatus for heat-treating products, the apparatus comprising:

a retort into which one or more products to be treated are receivable;

a heating means for heating the retort;

a coolant spray means for spraying a liquid coolant onto the one or more products received in the retort; and

a shielding means to substantially prevent the liquid coolant sprayed from the coolant spray means from impinging on an interior of the retort.

26. (NEW) The apparatus as claimed in claim 25, wherein the shielding means comprises one or more plates of one of a solid metal and a plastic sheet material.

27. (NEW) The apparatus as claimed in claim 25, wherein the shielding means comprises one of a foam and a mesh material having one of a pore and a mesh size effective to prevent one of droplets and streams of the liquid coolant from impinging on a retort wall.

28. (NEW) The apparatus as claimed in claim 25, wherein the shielding means comprises an impervious layer of thermally insulating material.

29. (NEW) The apparatus as claimed in claim 25, wherein the shielding means includes a sump tray mounted at a lower region of the retort and having a drain conduit extending through a retort wall to drain the liquid coolant from the sump tray, and a plurality of vertically extending plates positioned with their lowermost edges above the sump tray such that the liquid coolant impinging on the plates will be collected in the sump tray.

30. (NEW) The apparatus as claimed in claim 25, wherein the retort incorporates an agitating means for applying a reciprocating motion to the products received in the retort.

31. (NEW) The apparatus as claimed in claim 25, wherein the shielding means is fixed relative to the retort.

32. (NEW) The apparatus as claimed in claim 25, wherein the retort incorporates a carrier for supporting the products within the retort and movable relative to the retort, and at least one plate of the shielding means is mounted on the carrier.

33. (NEW) The apparatus as claimed in claim 25, wherein the retort is provided with a trap means at a lower part of the retort, adapted to catch the liquid coolant impinging on a retort wall due to failure of the shielding means, and a selectively openable drain valve in communication with the trap and openable to drain the liquid coolant from the trap.

34. (NEW) The apparatus as claimed in claim 33, wherein the trap means incorporates a sensor for detecting the presence of the liquid coolant in the trap means, the sensor being one of a level sensor and a sensor adapted to detect a constituent of a liquid coolant composition.

35. (NEW) A shielding apparatus for a retort, the apparatus comprising:

a retort wall defining a volume into which products to be treated are receivable;

a heating means for heating the retort;

a coolant spray means for spraying a liquid coolant onto the products received in the retort; and

a shielding means mountable within the retort to substantially prevent the liquid coolant sprayed from the coolant spray means from impinging on an interior of a retort wall.

36. (NEW) The shielding apparatus as claimed in claim 35, wherein the shielding means comprises one or more plates of a solid sheet material.

37. (NEW) The shielding apparatus as claimed in claim 35, wherein the shielding means comprise one of a foam and a mesh material having one of a pore and a mesh size effective to prevent one of droplets and streams of the liquid coolant from impinging on the retort wall.

38. (NEW) The shielding apparatus as claimed in claim 35, wherein the shielding means comprises an impervious layer of thermally insulating material.

39. (NEW) The shielding apparatus as claimed in claim 35, wherein the shielding means includes a sump tray mounted at a lower region of the retort and having a drain conduit extendable through the retort wall to drain liquid coolant from the sump tray, and a plurality of vertically extending plates positionable with their lowermost edges above the sump tray so that liquid coolant impinging on the plates will be collected in the sump tray.

40. (NEW) A method of protecting a retort comprising a retort wall defining a volume into which products to be treated are receivable, a heating means for heating the retort, and a coolant spray means for spraying a liquid coolant onto the products received in the retort against thermal shock, the method comprising the step of:

mounting a shielding means within the retort to prevent the liquid coolant sprayed from the coolant spray means within the retort from impinging on an interior of a retort wall.

41. (NEW) The method of protecting a retort as claimed in claim 40 further comprising the steps of:

mounting a sump tray at a lower region of the retort;

providing a drain conduit through the retort wall to drain the liquid coolant from the tray; and

mounting a plurality of vertically extending shield plates within the retort with lowermost edges of the plates being positioned above the sump tray.

42. (NEW) The method of protecting a retort as claimed in claim 40 wherein the shielding means comprises an impervious layer of thermally insulating material; the method further comprising the steps of:

opening a drain valve to empty the trap;

closing the drain valve prior to a cooling operation; and

establishing shield failure by sensing the liquid coolant in the trap after the cooling operation has started.

43. (NEW) The method of protecting a retort as claimed in claim 42 further comprising the step of detecting the liquid coolant in the trap by one of detecting a level of the liquid coolant therein and detecting a constituent of liquid coolant therein.